

Figure 1

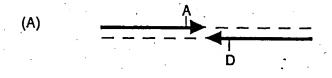
$$NH_2$$
 NH_2
 NH_2
 NH_2
 NH_3
 NH_4
 NH_4
 NH_5
 NH_5
 NH_6
 NH_6
 NH_7
 NH_8
 NH_8
 NH_8
 NH_9
 NH_9

meta-EthD

$$NH_2 - NH_2 - NH_2 - NH_2$$

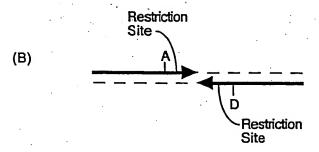
$$NH_2 -$$

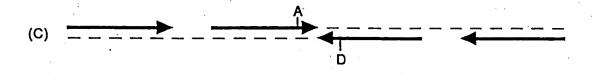
Figure 2



A = Energy Acceptor

D = Energy Donor





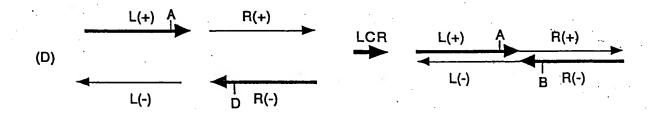
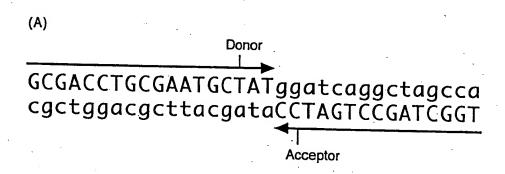


Figure 3

Target Sequence

——GCGACCTGCGAATGCTATGGATCAGGCTAGCCA———
CGCTGGACGCTTACGATACCTAGTCCGATCGGT———



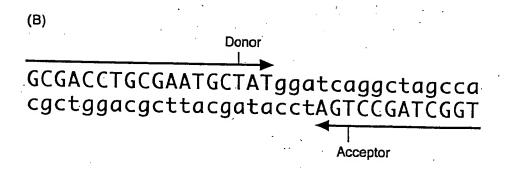


Figure 4

(A) PCR

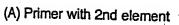
(B) SDA

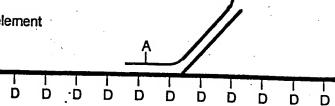
(C) GAP-LCR

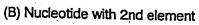
$$\xrightarrow{A}_{D} \xrightarrow{A}_{A}$$

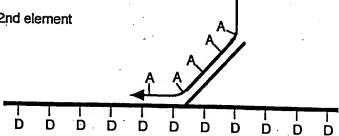
A = Energy Acceptor

Figure 5 D = Energy Donor

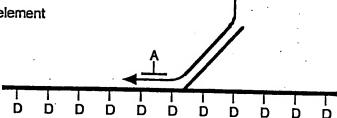








(B) Probe with 2nd element



(B) Intercalators with 2nd element

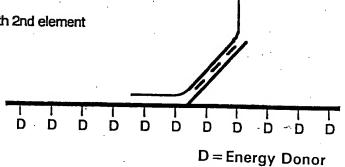


Figure 6

A = Energy Acceptor

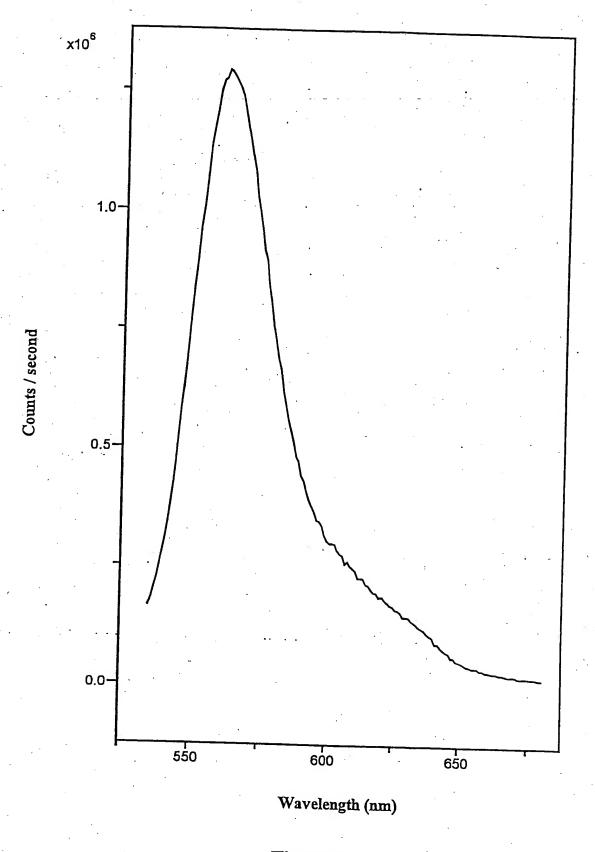


Figure 7

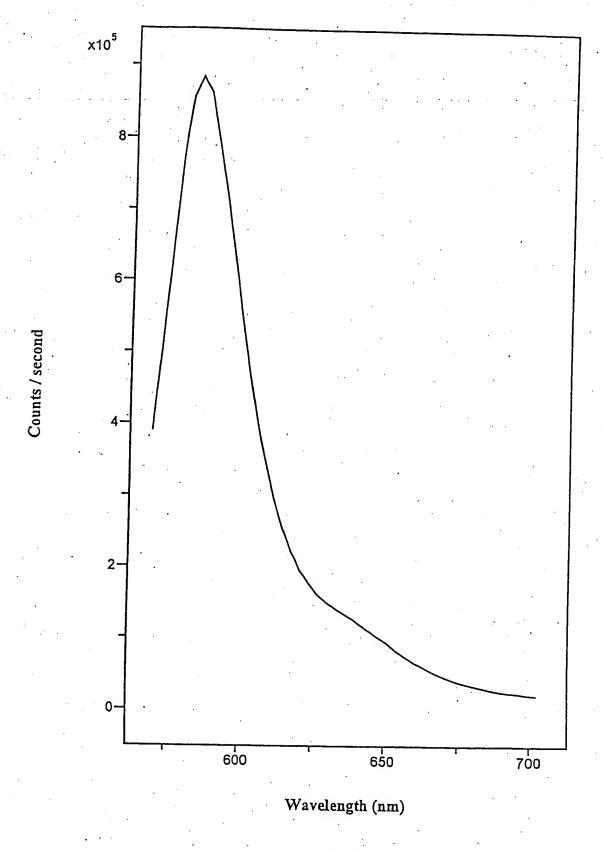
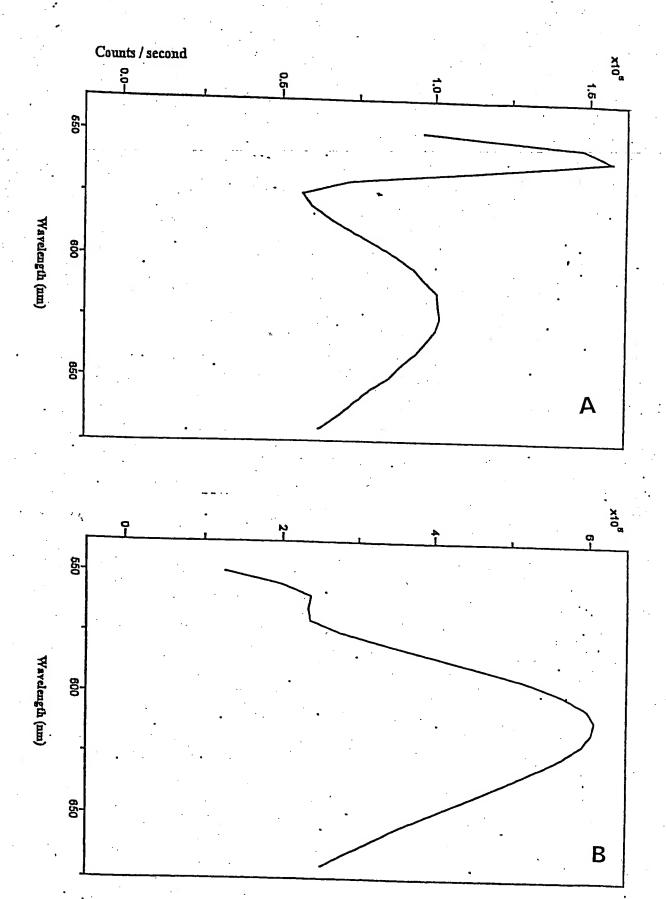


Figure 8

$$O_2N$$
 O_2N
 O_2N

Figure 9

(8) R'=NH₂, X=CI



Illumination at 472 nM Figure 10

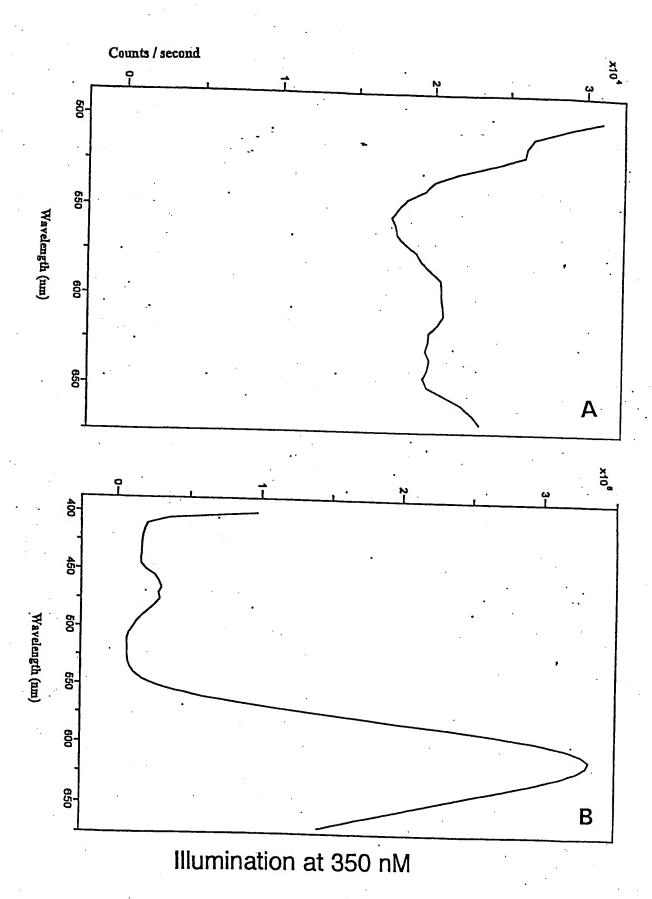


Figure 11

HIV Anti-sense Amplicon

Forward Primer

atgggaggtg

catgatccgg

Hybridization Probe

taatggtg agtatccctg cctaactct

catgatccgg atgggaggtg ggtctgaaac gataatggtg agtatccctg cctaactcta ttcactatcc ggatgtgc gtactaggcc taccctccac ccagactttg ctattaccac tcatagggac ggattgagat aagtgatagg cctacacg

agat aagtgatagg cctacacg Reverse Primer

Figure 12

A) Binding of CNAC to poly A tail poly A tail mRNA υυυυυυυυττττοορορορο CNAC U = Uridine (ribonucleotide) T = Thymidine (deoxyribonucleotide) B) elimination of poly A segment by RNase H Q = Inosine (ribonucleotide) RNase H mRNA -AAAAAAAAAAAAA-3' UUUUUUUTTTTQQQQQQQQQ CNAC C) Incorporation of primer binding site by template dependent extension of analyte Rerverse Transcriptase **mRNA** -AAAAAAAAAAAAAAAAACCCCCCCC-3° UUUUUUUTTTTQQQQQQQQQ CNAC

D) Removal of CNAC and binding of primer with promoter sequence GGGGGGG-promoter-5' **-**AAAAAAAAAAAAAAAACCCCCCC-3'

mRNA

Figure 15